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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/524,849

02/18/2005

Junya Kawabata

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38834

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05/16/2006

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EXAMINER

NGUYEN, HOANG M

ART UNIT

PAPER NUMBER

3748

DATE MAILED: 05/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/524,849	KAWABATA ET AL.	
	Examiner	Art Unit	
	Hoang M. Nguyen	3748	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>02/18/05</u> . | 6) <input type="checkbox"/> Other: ____. |

Art Unit: 3748

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 8/1-2, are rejected under 35 U.S.C. 102(b) as being anticipated by US 2648492 (Stalker).

Regarding independent claim 1, Stalker discloses a centrifugal impeller 17 comprising a plurality of vanes 46 forming ducts 45, a shroud 47 fixed to the vanes 46, said shroud comprising a meridian-plane cross section with a curved line to project toward the hub of the impeller in a region from the blade inlet to a predetermined position of the blade, and curves so as to project toward the opposite side of the hub in the region from said predetermined position to the outlet, see figure 1 and note column 2.

Regarding claim 2, said predetermined position is clearly near the center of vanes 46.

Regarding claim 3, the streamlines of said hub and shroud are clearly correspond to each other.

Regarding claims 8/1-2, note the casing 1 and the shaft 112.

Claims 5-7, 8/5-6, are rejected under 35 U.S.C. 102(b) as being anticipated by GB 160474 (Wareing).

Art Unit: 3748

Regarding independent claim 5, Wareing discloses a centrifugal impeller comprising a plurality of vanes 2, 3, forming passages 45, a shroud 1 fixed to the vanes 2, said the flow passages 5 being gradually increased from a blade inlet 6-6 to the predetermined position which is the middle 7-7, then decrease to the outlet 8.

Regarding claim 6, said predetermined position is clearly near the center of vanes 2-3.

Regarding claim 7, the streamlines of said hub and shroud are clearly correspond to each other.

Regarding claims 8/5-6, all pumps have a casing 1 and a drive shaft.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4-8 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. 2648492 (Stalker) in view of GB 160474 (Wareing). Stalker discloses all the claimed subject matter as set forth above, but does not disclose the distance increasing from the inlet to the middle, then decrease to the outlet. Wareing is relied upon to disclose . a centrifugal impeller comprising a plurality of vanes 2, 3, forming passages 45, a shroud 1 fixed to the vanes 2, said the flow passages 5 being gradually increased from a blade inlet 6-6 to the predetermined position which is the middle 7-7, then decrease to the outlet 8. It would have been obvious at the time the invention was made

Art Unit: 3748

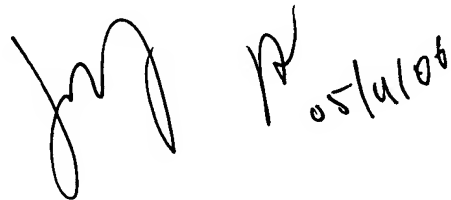
to a person having ordinary skill in the art to modify the impeller in Stalker to have the increasing-decreasing feature as taught by Wareing for the purpose of achieving the appropriate pressure ratio as claimed.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Berger discloses a centrifugal compressor having decreasing outlet.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Examiner Nguyen whose telephone number is (571) 272-4861. The examiner can normally be reached on Tuesday--Friday from 12:30 AM to 10:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion can be reached on 571-272-4859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



HOANG NGUYEN
PRIMARY EXAMINER
ART UNIT 3748

Hoang Minh Nguyen
5/11/2006